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14. ABSTRACT In the grant period from 2008 through 2013, the University of Redlands conducted investigations into several core areas of Geographic Information Science (GI Science). Our approach was to explore the integration of emerging Geospatial Science theory with Information Science methods and technology, and then to engineer applications that achieve innovation (a) for enhancing terrestrial science research, and (b) for exploring practical solutions to critical operational issues as identified by the DOD. This report summarizes our research to codify core principles and					
15. SUBJECT TERMS spatial decision support; geographic information science; GIS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	15. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON Jordan Henk
a. REPORT UU	b. ABSTRACT UU	c. THIS PAGE UU			19b. TELEPHONE NUMBER 909-748-8268

## Report Title

Final Report: GIS Program Initiative to Enhance Knowledge, Skills and Technology for DoD Research Facilities

### ABSTRACT

In the grant period from 2008 through 2013, the University of Redlands conducted investigations into several core areas of Geographic Information Science (GI Science). Our approach was to explore the integration of emerging Geospatial Science theory with Information Science methods and technology, and then to engineer applications that achieve innovation (a) for enhancing terrestrial science research, and (b) for exploring practical solutions to critical operational issues as identified by the DOD. This report summarizes our research to codify core principles and methods of spatial decision support, as validated via the development of innovative technology applications with research partners from ERDC laboratories and DoD installations.

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**Enter List of papers submitted or published that acknowledge ARO support from the start of the project to the date of this printing. List the papers, including journal references, in the following categories:**

**(a) Papers published in peer-reviewed journals (N/A for none)**

<u>Received</u>	<u>Paper</u>
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**TOTAL:**

**Number of Papers published in peer-reviewed journals:**

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**(b) Papers published in non-peer-reviewed journals (N/A for none)**

<u>Received</u>	<u>Paper</u>
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**TOTAL:**

**Number of Papers published in non peer-reviewed journals:**

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**(c) Presentations**

**Number of Presentations:** 0.00

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**Non Peer-Reviewed Conference Proceeding publications (other than abstracts):**

Received      Paper

**TOTAL:**

**Number of Non Peer-Reviewed Conference Proceeding publications (other than abstracts):**

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**Peer-Reviewed Conference Proceeding publications (other than abstracts):**

Received      Paper

**TOTAL:**

**Number of Peer-Reviewed Conference Proceeding publications (other than abstracts):**

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**(d) Manuscripts**

Received      Paper

08/28/2012	3.00	Naicong Li, Stephen Ervin, Miachael Flaxman, Michael Goodchild, Carl Steinitz. Design and application of an ontology for geodesign, Revue Internationale de Geomatique, Special issue on Geodesign (12 2011)
08/28/2012	4.00	Naicong Li, Robert Raskin, Michael Goodchild, Krzysztof Janowicz. An Ontology-Driven Framework and Web Portal for Spatial Decision Support, Transactions in GIS (01 2012)
08/28/2012	5.00	Naicong Li. Accessing Knowledge, Information and Resources for Planning and Spatial Decision Support: Introducing the Spatial Decision Support Knowledge Portal, International Journal of E-Planning Research (06 2011)

**TOTAL:      3**

**Number of Manuscripts:**

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**Books**

TOTAL:

Patents Submitted

Patents Awarded

Awards

Graduate Students

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
FTE Equivalent:	
Total Number:	

Names of Post Doctorates

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
FTE Equivalent:	
Total Number:	

Names of Faculty Supported

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
FTE Equivalent:	
Total Number:	

Names of Under Graduate students supported

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
FTE Equivalent:	
Total Number:	

### Student Metrics

This section only applies to graduating undergraduates supported by this agreement in this reporting period

The number of undergraduates funded by this agreement who graduated during this period: .....	0.00
The number of undergraduates funded by this agreement who graduated during this period with a degree in science, mathematics, engineering, or technology fields:.....	0.00
The number of undergraduates funded by your agreement who graduated during this period and will continue to pursue a graduate or Ph.D. degree in science, mathematics, engineering, or technology fields:.....	0.00
Number of graduating undergraduates who achieved a 3.5 GPA to 4.0 (4.0 max scale): .....	0.00
Number of graduating undergraduates funded by a DoD funded Center of Excellence grant for Education, Research and Engineering:.....	0.00
The number of undergraduates funded by your agreement who graduated during this period and intend to work for the Department of Defense .....	0.00
The number of undergraduates funded by your agreement who graduated during this period and will receive scholarships or fellowships for further studies in science, mathematics, engineering or technology fields: .....	0.00

### Names of Personnel receiving masters degrees

NAME

**Total Number:**

### Names of personnel receiving PhDs

NAME

**Total Number:**

### Names of other research staff

<u>NAME</u>	<u>PERCENT SUPPORTED</u>
Lisa Benvenuti	0.13
Rodolfo Godinez	0.27
Monica Hally	0.01
Jordan Henk	0.04
Naicong Li	0.28
Philip Murphy	0.01
Serene Ong	0.01
Steven Paplanus	0.02
Nathan Strout	0.02
Martin Wong	0.00
Nicholas Alexandres	0.38
Jaime Melendez	0.37
Kalaivani Nellaiappan	0.01
<b>FTE Equivalent:</b>	<b>1.55</b>
<b>Total Number:</b>	<b>13</b>

### Sub Contractors (DD882)